

### REMARKS

Claims 1-10, 12-21 and 23-32 are pending in the application

Claims 1-3, 6-8, 10, 12-14, 17-19, 21, 23-26 and 29-31 have been rejected.

Claim 32 has been allowed.

Claims 4, 5, 9, 15, 16, 20, 27 and 28 have been objected to.

Claims 2, 9, 13, 20 and 32 have been amended.

#### *Rejection of Claims under 35 U.S.C. §112*

Claims 1-10, 12-21 and 23-31 stand rejected under 35 U.S.C. §112, second paragraph as purportedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. *See* Office Action, p. 2. Applicants respectfully traverse this rejection and offer amendments.

#### Independent Claims 1, 12, 23 and 30

Independent claims 1, 12, 23, and 30 (and their respective dependant claims) have been rejected as indefinite for the stated reason that “‘estimating a ... link error rate ... using ... a hysteresis factor’ is apparently incorrect, as ‘hysteresis’ is apparently only involved in determining an alarm state, not an error rate.” *See* Office Action, p. 2. Applicants respectfully submit that this rejection is based upon a mischaracterization of the disclosure of the present Application. As disclosed in the specification, the hysteresis factor is involved in *both* the generation of a physical link error alarm set threshold, as recited in allowed claim 32, for example, as well as in the estimation of a real-time

physical link error rate, as recited in claims 1, 12, 23, and 30. This follows, at least, from the disclosed estimation of the real-time physical link error rate using the physical link error alarm set threshold. Support for this assertion can be found at least in the following:

Following the determination of the physical link error alarm clear threshold, physical link error alarm set threshold, and evaluation time period the real-time physical link error rate may be estimated by treating detected operational link errors . . . as physical link errors.

Application, ¶ [0042] (emphasis added).

Thus, for at least the reason that the hysteresis factor can be used to generate a physical link error alarm set threshold, which can in turn be used to estimate a real-time physical link error rate, Applicants assert that the limitation of independent claims 1, 12, 23, and 30 reciting the use of a hysteresis factor to estimate a real-time physical link error rate is supported by the originally filed Application and is *not* “incorrect.” Thus, Applicants respectfully request the reconsideration and withdrawal of this rejection against independent claims 1, 12, 23, and 30, and their respective dependant claims.

#### Claims 2 and 13

Claims 2 and 13 have been rejected as indefinite due to the recitation of a limitation reciting “determining said operational link error rate of said link in response to said detecting.” Without making any admission as to the assertions set forth in the Office Action concerning this limitation, but in the interest of advancing prosecution, Applicants have amended claims 2 and 13 in accord with the suggestion of the Office Action. In doing so, however, Applicants do not endorse any interpretation of the language of the amendment, including any interpretation offered by the Office Action, other than the interpretation understood by a person having ordinary skill in the art in light of the

Specification. Because of these amendments, Applicants respectfully submit that the rejection against claims 2 and 13, and their respective dependant claims, is moot.

*Rejection of Claims under 35 U.S.C. §102*

Claims 1-3, 6-8, 10, 12-14, 17-19, 21, 23-26 and 29-31 stand rejected under 35 U.S.C. §102(b) as purportedly being anticipated by U.S. Patent No. 5,459,731 issued to Brief et al. ("Brief"). Applicants respectfully traverse this rejection.

*The Cited Sections of Brief Fail to Teach Using One Type of Error Rate  
for Estimating Another Type of Error Rate*

Regarding, at least, the independent claims 1, 12, 23, and 30, the Office Action cites Brief 3:52-67 and 4:22-67 in support of the proposition that Brief "discloses a method comprising 'determining an operational link error of a link' and 'estimating a real-time physical link error rate of said link using said operational link error rate.'" See Office Action, p. 3. The Office Action states:

Brief's link error monitor (234) estimates LER [the link error rate] by computing a time interval "T" in a formula (1) for LER as a weighted average time interval "AveInt" between link errors (column 3, lines 57+), where the link errors detected are line code violations (column 4, lines 22+). Brief's measured interval " $t_n$ " between each detected error serves as an "operational link error rate of a link" in the form of quantified seconds per error. Brief's LER estimate is used as a "real-time physical link error rate" in being applied to the ANSI FDDI PMD standard for maximum tolerable LER (column 3, lines 52-56).

(Office Action, p. 3.)

Applicants submit that the cited sections of Brief, along with the adjoining sections, describe merely a single error rate, the link error rate (LER), and a method for estimating that rate by calculating the "weighted average time interval AveInt between link errors." The cited sections teach that instead of using equation (1), which holds that

$$LER = \frac{N}{T \times 125 \times 10^6},$$

to calculate the LER, equation (3) can be used to estimate the LER. Equation (3) holds that

$$LER = \frac{1}{AveInt \times 10},$$

where  $AveInt = \frac{1}{2}i_n + \frac{1}{4}i_{n-1} + \frac{1}{8}i_{n-2} + \dots + \frac{1}{2^{n+2}}i_0$ . See Brief 3:52-4:22.

Since the Office Action states, as referenced above, that “Brief’s measured interval ‘ $i_n$ ’ between each detected error serves as an ‘operational link error rate of a link’ in the form of quantified seconds per error,” and that “Brief’s LER estimate is used as a ‘real-time physical link error rate,’ the Office Action (1) equates the operational link error rate of, at least, claims 1, 12, 23, and 30 with Brief’s measured interval “ $i_n$ ,” and (2) equates the real-time physical link error rate of, at least, claims 1, 12, 23, and 30 with the LER. However, as understood by Brief itself, it is unreasonable for the Office Action to interpret “ $i_n$ ” as a link error rate. As admitted by the Office Action, “ $i_n$ ” has units of seconds per error, but, according to Brief, a link error rate “is defined as the ratio of the number of error bits to the total number of bits received.” See Brief 3:52-53. Thus, as understood by Brief itself, a link error rate would not be in units of seconds per error, but would either be unitless or would have units comprised solely of ratios of different numbers of bits. Further, the same types of errors determine both “ $i_n$ ” and the LER. The cited sections of Brief mention only one type of error, the “link error.” Thus, even if both “ $i_n$ ” and the LER could be considered link error rates, they cannot be two different *types* of link error rates, as provided in the claims.

Thus, since (1) there is only one type of link error rate taught in the cited sections of Brief, and (2) that error rate is estimated using the weighted average time interval AveInt between link errors, and not another type of error rate, Brief fails to teach the estimation of one kind of error rate using another kind of error rate, as claimed. Therefore, Brief fails to teach “estimating a real-time physical link error rate of said link using said operational link error rate.”

*The Cited Sections of Brief Fail to Teach Estimating a Real-Time Physical Link Error Rate Using a Hysteresis Factor*

Regarding, at least, the independent claims 1, 12, 23, and 30, the Office Action asserts the proposition that “Brief discloses ‘hysteresis’ in the form of different LER thresholds for alarm setting and clearing, and Brief’s different LER thresholds for alarm setting and clearing inherently possess a ‘hysteresis factor’ defined as ‘a ratio of a physical link alarm set threshold to a physical link alarm clear threshold.’” However, even if this assertion is assumed correct, for the sake of argument, it is inapposite. Claims 1, 12, 23, and 30 recite a limitation that requires “estimating a real-time physical link error rate of said link using . . . a hysteresis factor.” The mere disclosure of hysteresis or the inherent possession of a hysteresis factor does not teach *using* a hysteresis factor to estimate a real-time physical link error rate.

*Request for Reconsideration and Withdrawal*

Thus, for at least the individually sufficient reasons that (1) Brief fails to teach “estimating a real-time physical link error rate of said link using said operational link error rate,” (2) the Office Action has failed to even allege that Brief teaches “estimating a

real-time physical link error rate of said link using . . . a hysteresis factor,” and (3) the cited sections of Brief, in fact, fail to teach “estimating a real-time physical link error rate of said link using . . . a hysteresis factor,” Applicants submit that Brief fails to teach all the elements of independent claims 1, 12, 23, and 30. Thus, Applicants respectfully request the reconsideration and withdrawal of this rejection.

*Allowance of Claims and Claim Objections*

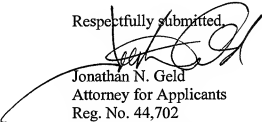
Applicants express their appreciation to the Examiner for the notice of allowance of claim 32 and the notice of allowability of claims 4, 5, 9, 15, 16, 20, 27, and 28. Given the arguments and amendments set forth above, Applicants believe that claims 4, 5, 9, 15, 16, 20, 27, and 28, along with all other claims, are now in condition for allowance. Applicants have amended claim 32 to correct a typographical error.

CONCLUSION

In view of the amendments and remarks set forth herein, the application and the claims therein are believed to be in condition for allowance without any further examination and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5090.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicant hereby petitions for such extensions. Applicant also hereby authorizes that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to deposit account 502306.

Respectfully submitted,



Jonathan N. Geld  
Attorney for Applicants  
Reg. No. 44,702  
(512) 439-5090 [Phone]  
(512) 439-5099 [Fax]